

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): High-grade duplex stainless steel with high corrosion resistance, embrittlement resistance, castability and hot workability which suppresses formation of intermetallic phases including sigma (σ) and chi (χ) phases, consisting essentially of 21.0 to 38.0% of Cr, 3.0 to 12.0% of Ni, 1.5 to 6.5% of Mo, 0 to 6.5% of W, 3.0% or less of Si, 1.0% or less of Al, 8.0% or less of Mn, 0.2 to 0.7% of N, 0.1% or less of C, 0.0001 to 0.6% of Ba, and a balance of Fe and incidental impurities on a weight basis, wherein Ba exists as atoms and as compounds in the steel, a pitting resistance equivalent (PREW) defined by following formula Φ satisfying $40 \leq \text{PREW} \leq 67$:

$$\text{PREW} = \text{wt\%Cr} + 3.3(\text{wt\%Mo} + 0.5\text{wt\%W}) + 30\text{wt\%N} - \Phi.$$

Claim 2 (Currently Amended): The high-grade duplex stainless steel of claim 1, further containing 0.0001 to 1.0% of mischmetal (MM) and/or Y in total, wherein MM is total weight of Ce, La, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, and Sc, wherein MM exists as atoms and as compounds in the steel.

Claim 3 (Original): The high-grade duplex stainless steel of claim 2, wherein Ba is

added within the range of 0.001 to 0.2%.

Claim 4 (Currently Amended): High-grade duplex stainless steel with high corrosion resistance, embrittlement resistance, castability and hot workability which suppresses formation of intermetallic phases including sigma (σ) and khi (χ) phases, consisting essentially of 21.0 to 38.0% of Cr, 3.0 to 12.0% of Ni, 1.5 to 6.5% of Mo, 0 to 6.5% of W, 3.0% or less of Si, 1.0% or less of Al, 8.0% or less of Mn, 0.2 to 0.7% of N, 0.1 % or less of C, 0.0001 to 1.0% of MM and/or Y in total, and a balance of Fe and incidental impurities on a weight basis, wherein MM is total weight of Ce, La, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, and Sc, wherein MM exists as atoms and as compounds in the steel, a pitting resistance equivalent (PREW) defined by following formula ① satisfying $40 \leq \text{PREW} \leq 67$:

$$\text{PREW} = \text{wt}\% \text{Cr} + 3.3(\text{wt}\% \text{Mo} + 0.5\text{wt}\% \text{W}) + 30\text{wt}\% \text{N} - \text{①}.$$

Claim 5 (Previously Presented): The high-grade duplex stainless steel of one of claims 2 to 4, wherein a value of $[\text{MM and/or Y+Al}]\cdot[\text{O+S}]$ which is an equation of solubility products of MM and/or Y, and Al, O and S of steel ranges from 0.001×10^{-5} to $30000 \times 10^{-5} [\%]^2$.

Claim 6 (Original): The high-grade duplex stainless steel of claim 5, wherein, in the case of a cast product, the value of the equation of the solubility products ranges from

1×10^{-5} to $5000 \times 10^{-5} [\%]^2$.

Claim 7 (Original): The high-grade duplex stainless steel of claim 5, wherein, in the case of a hot working product, the value of the equation of the solubility products ranges from 0.1×10^{-5} to $2000 \times 10^{-5} [\%]^2$.

Claim 8 (Original): The high-grade duplex stainless steel of one of claims 2 to 4, wherein a total amount of MM and/or Y ranges from 0.01 to 0.6%.

Claim 9 (Original): The high-grade duplex stainless steel of claim 8, wherein the total amount of MM and/or Y ranges from 0.2 to 0.5%.

Claim 10 (Previously Presented): The high-grade duplex stainless steel of one of claims 1 to 4, further containing at least one element selected from the group consisting of 0.5% or less of Ca, 0.5% or less of Mg, 0.5% or less of Ta, 0.5% or less of Nb, 1.5% or less of Ti, 1.0% or less of Zr, 1.0% or less of Sn and 1.0% or less of In.

Claim 11 (Original): The high-grade duplex stainless steel of one of claims 1 to 4, further containing 0.1% or less of B.

Claim 12 (Original): The high grade duplex stainless steel of one of claims 1 to 4, further

containing one or more among 3.0% or less of Cu and 3.0% or less of Co.

Claim 13 (Original): The high-grade duplex stainless steel of one of claims 1 to 4, wherein a value of $[PREW(\gamma)-PREW(\alpha)]$ which is a corrosion resistance balance of austenitic phase and ferritic phase ranges from -5 to 10.

Claim 14 (Original): The high-grade duplex stainless steel of one of claims 1 to 4, wherein a volume fraction of ferritic phase ranges from 20 to 70%, and a volume fraction of austenitic phase ranges from 30 to 80% on a volume basis.

Claim 15 (Previously Presented): The high-grade duplex stainless steel of claim 10, further containing 0.1% or less of B.

Claim 16 (Previously Presented): The high grade duplex stainless steel of claim 10, further containing one or more among 3.0% or less of Cu and 3.0% or less of Co.

Claim 17 (Previously Presented): The high grade duplex stainless steel of claim 11, further containing one or more among 3.0% or less of Cu and 3.0% or less of Co.